EHR Changes for MU2: Overview of Changes

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EHR Program
Introduction

• This is a very high-level overview of changes in EHRp13, TIUp1011/1012, BHSp8, GMRAp1007, PXRMv2.0p1001/1002.

• We will present the Integrated Problem List (IPL), Clinical Information Reconciliation (CIR), and CCDA tools in much more detail later in the training.

• We will offer more in-depth trainings on the EHR and related packages to include configuration tips and tricks when we are closer to release.

• We will offer an in-depth overview of Reminders 2.0 p1001/1002 when we are closer to release.
Approach as opportunity for improvement

• Software provides tools.
• Just because a process has existed for a long time does not mean it is the optimal process.
• New tools provide opportunities to review clinical and business processes and leverage what will improve these processes.
• Longitudinal problem documentation is not a new concept. Our tools did not well support this. The new tools better support longitudinal problem documentation and care planning.
• Documentation improvement is needed with ICD-9 and even more for ICD-10.
• More data can now be exchanged and more data is transparent to patients.
Benefits Meaningful Use 2014 Adoption

- Increased Health information exchange
  - Health information exchange infrastructure
  - More data encoded with controlled vocabularies supports health information exchange (SNOMED CT®, LOINC, RxNORM, UNII)
- Longitudinal problem data collection and aggregation
  - Changes to problem data are logged and viewable
  - Care planning documentation available
  - Data aggregation of care provided for problems
- Increased transparency to patients
  - CCDA clinical summaries and PHR that include care planning
- Increased data security
  - Auditing
- Transition to ICD-10
  - Meaningful Use 2014 introduces a new process for documenting problems and encounter diagnoses that incorporates SNOMED CT® and maps to ICD.
  - Providers will already be accustomed to the new Integrated Problem List making ICD-10 transition relatively transparent.
What is SNOMED CT®?

Systematized NOmenclature of MEDicine Clinical Terms (SNOMED CT®) is a comprehensive, multilingual clinical terminology that provides clinical content and expressivity for clinical documentation.

Clinician friendly language to document clinical impressions, findings, and diagnoses.
What is SNOMED CT®?

SNOMED CT® is a “controlled vocabulary”

• Each SNOMED CT® term is carefully defined by an international team of terminologists. The term is placed by the terminologist in a specific hierarchy with specific relationships.

• This is where the power of SNOMED CT® lies. Because the content is organized based on its clinical meaning, the information can be utilized more accurately and more thoroughly.

• ICD is also organized hierarchically, but its purpose is billing and utilization so the information cannot be extracted and grouped the same way.
Why change to the Integrated Problem List?

There were several required changes due to Meaningful Use 2014 incorporated into the EHR:

• SNOMED CT® for problem list
• Longitudinal problem-focused documentation including goals, care plans, and visit instructions
• Support for multidisciplinary problem documentation
• SNOMED CT® for much of the data used in Clinical Quality Measures
• Supports transition to ICD-10 for encounters
More About SNOMED CT®

• Extremely large set of concepts and descriptions representing many standard terminologies
• Scalable for a variety of uses
• Owned and maintained by the International Health Terminology Standards Development Organisation (IHTSDO) in Denmark
• Released in the U.S. by the National Library of Medicine (NLM)

Source: IHTSDO, www.snomed.org
Clinical Expressions

*Concept* – the computer readable “code”

*Example*: 823660015 (concept for the disorder of the Common Cold)

*Descriptions* – explain concepts in a human readable expression

*Example:*

- Common cold (disorder) – fully specified name which is unique
- Common cold – preferred term
- Cold – synonym
- Head cold – synonym

*Relationships* – define the type of association between two related concepts

*Example*: Common Cold (disorder), a viral upper respiratory tract infection (disorder)
SNOMED CT®
Reduces Ambiguity
SNOMED CT ® Definitions (cont.)

Scalability and Mapping

*Subsets* - reference sets, value sets - a collection of SNOMED CT® concepts used for a particular purpose

**Example:** Pick list, sub-search, drop down selection in EHR

*Extensions* - incorporate concepts, descriptions and terms unique to a particular region or country

**Example:** U.S. and U.K. have their own extensions

*Cross maps* - explicit links to health-related classifications and coding schemes such as ICD-9-CM and ICD-10

**Example:** SNOMED to ICD-9 map
SNOMED CT® in the RPMS EHR

Where will you see SNOMED CT®?

• You will select SNOMED CT® terms instead of ICD-9 or ICD-10 codes for diagnoses and conditions on the problem list, and clinical indications when ordering labs, medications, and consults.

• SNOMED CT® codes will also be stored in the background in other areas of the EHR.
What does this mean for the clinical user?

• The most significant change is a redesigned and redefined problem list.

• The way problems are entered and managed and how POVs are selected has been changed.
Mappings to ICD

Mappings are an integral part of the design of the Integrated Problem List and how SNOMED CT® will assist IHS with the transition to ICD-10.

These mappings automate, only when appropriate, assignment of ICD codes.

Mappings are transparent to the user. They are visible when selecting a SNOMED, on the problem list, visit diagnosis, and clinical indications.
SNOMED CT® Related Maps Used in RPMS

ICD-9 to SNOMED CT® reverse map developed by Centers for Medicare and Medicaid Services (CMS) and released by the NLM

- **Use in EHR** - assist in the transition of problem lists to SNOMED
SNOMED CT® Related Maps
Used in RPMS (cont.)

SNOMED CT® to ICD-9 – provided by CMS and delivered by NLM
• **Use in EHR** – for SNOMED problems and problems selected as POVs prior to ICD-10 transition
# SNOMED to ICD-9 Mapping Examples

<table>
<thead>
<tr>
<th>SNOMED Term</th>
<th>ICD-9</th>
<th>Storage of Mapped Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunburn of second degree</td>
<td>Sunburn of second degree 692.76</td>
<td>1:1 This is a 1:1 match so will store in the POV when selected.</td>
</tr>
</tbody>
</table>
| Diabetic Nephropathy             | Diabetes with renal manifestations, type II or unspecified type, not 250.00  
Stated as uncontrolled  
Nephritis and nephropathy, not specified as acute or chronic, in diseases classified elsewhere 583.81 | 1:1: This is a 1:1 match so will store both ICD-9 codes. When problem is selected as POV, 2 POVs will store. |
| Ganglion of the wrist            | Ganglion of joint 727.41                                              | Narrow to Broad: Closest ICD-9 code is less specific than the SNOMED. This will store in POV when selected. |

*When there is no mapping available OR when the closest ICD-9 code is more specific than the SNOMED, then the system will assign .9999 un-coded. The code assigned by coders will depend on the SNOMED term selected and the remainder of the visit documentation.*
INTEGRATED PROBLEM LIST
Integrated Problem List: MU Required Features

- SNOMED CT® Problem List
- Care Planning
- Treatment Regimen elements for CQM
Integrated Problem List: IHS Additions

• Longitudinal data collection and aggregation
  • Changes in problem data are now stored and visible in the problem detail. This allows the user view the evolution of the problem over time.
  • Care planning is associated with problems
  • Some visit data is now associated with problems used as POVs
    • Visit Instructions
    • Patient Education (when entered about a problem)
    • Treatment/Regimen
    • Referrals (when problem selected as reason for referral)
    • Consults (when problem selected as clinical indication)

We encourage user requests for report views to aggregate problem data and care planning that will better suit needs in the field.
Integrated Problem List: IHS Additions (cont.)

• Reverse Mapping tool to assist with updating Problem List from ICD-9 to SNOMED
• Mapping to ICD-9 without user intervention
  • Data entry can still adjust coding when necessary and if un-coded after selected for POV
• POV selection from Problem List
• POV selection dialog
• Patient Ed documentation
• Expanded statuses
• Nationally vetted pick lists
Integrated Problem List: IHS Additions
Get SCT Reverse Mapping Tool
Integrated Problem List: IHS Additions
POV Selection Tool with Options for Additional Care Planning and Patient Education Documentation
Integrated Problem List: IHS Additions

Care Planning and Patient Education

Documentation
Integrated Problem List: IHS Additions
Pick List Examples
## MU2 Data Captured by IPL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems: SNOMED CT® encoded</td>
<td>No</td>
<td>MU2 rule, CQM data capture</td>
</tr>
<tr>
<td>POV selected from problem: SNOMED CT® passed to V POV</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
<tr>
<td>Goal Notes</td>
<td>No</td>
<td>MU2 rule, displays on CCDA</td>
</tr>
<tr>
<td>Care Plan Notes</td>
<td>No</td>
<td>MU2 rule, displays on CCDA</td>
</tr>
<tr>
<td>Visit Instructions</td>
<td>No</td>
<td>MU2 rule, displays on CCDA (CS)</td>
</tr>
<tr>
<td>Tx/Regiment/Followup</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
<tr>
<td>Patient Education</td>
<td>No</td>
<td>CQM date capture, CCDA</td>
</tr>
</tbody>
</table>
Preparing for Transition

Clean up problem lists - this is the single most important task your site can do to prepare for the IPL transition.

- Remove/consolidate redundant problem entries.
- Remove entries that do not belong on the problem list.
- Inactivate resolved problems.
- Code the un-coded problems – your data entry/coders can assist by running the Uncoded Problem report and coding the entries.
CCDA DOCUMENT GENERATION
Clinical Summary:
MU Required Features

Generate Clinical Summary
Customize Clinical Summary
Clinical Summary: IHS Additions

Smart tool allows:

• Easy generation of summary.
• Documentation of education if access to PHR.
• Documentation of refusal.
Transitions of Care: IHS Additions
Transition of Care: MU Required Features

- Generate ToC
- Customize ToC
- Transmit ToC

Transitions of Care from 2013 DEMO HOSPITAL

<table>
<thead>
<tr>
<th>Patient:</th>
<th>Date of Birth: May 1, 1947</th>
<th>Race: White</th>
<th>Preferred Language: English</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR#: XFA: 147190</td>
<td>Sex: Female</td>
<td>Ethnicity: Not Hispanic or Latino</td>
<td></td>
</tr>
</tbody>
</table>

Visit Date: February 13, 2014
Visit Location: 2013 DEMO HOSPITAL; UPTOWN USA; ALBUQUERQUE, NE 87101

Table of Contents

- Problems/Encounter Diagnoses
- Medications
- Procedures
- Medications
- Allergies
- Adverse Reactions, Alerts

Problems/Encounter Diagnoses

Active:

- *Community acquired pneumonia [385093006]; 06/06/2012

Inactive (personal history):

- Asthma [1959567001]; 02/18/2014

*Reasons for today's visit

Allergies, Adverse Reactions, Alerts

Active allergies:
Transition of Care: IHS Additions

Smart tool allows:

• Generation by visit(s) or RCIS referral.
• Defaults to print, fax, or transmit based on data in Vendor file of RCIS.
Measure

Clinical summaries provided to patients within *one business day* for more than 50 percent of office visits.

*** Access to PHR, Refusals count in numerator.
Measure 1:
The EP who transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 50 percent of transitions of care and referrals.

Measure 2:
The EP who transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 10 percent of such transitions and referrals electronically transmitted using certified EHR technology (CEHRT) to a recipient.

Measure 3:
An EP must satisfy one of the following criteria:

- Conducts one or more successful electronic exchanges of a summary of care document, part of which is counted in "measure 2" (for EPs the measure at §495.6(j)(14)(ii)(B) with a recipient who has EHR technology that was developed designed by a different EHR technology developer than the sender's EHR technology certified to 45 CFR 170.314(b)(2).
- Conducts one or more successful tests with the CMS designated test EHR during the EHR reporting period.
# MU2 Data Captured by CCDA

<table>
<thead>
<tr>
<th>Feature</th>
<th>Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generate ToC</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>Transmit ToC</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>Generate Clinical Summary</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>Refused Clinical Summary</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
</tbody>
</table>
VIEWING SUMMARY DOCUMENTS
View Summaries in CIR Tool

View CCD and scanned summaries

View CCDA summaries
View Summaries in CIR Tool (cont.)
## MU2 View Summaries

<table>
<thead>
<tr>
<th>Feature</th>
<th>Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>View documents</td>
<td>No</td>
<td>MU2 rule</td>
</tr>
</tbody>
</table>
INCORPORATION
Incorporation of CCDA Data: MU Required Features

Data to be incorporated from CCDA:

- **Problems**
- **Allergies**
- **Medications**

  - View on single screen data from EHR/RPMS and incoming CCDA.
  - Incorporate with electronic facilitation data from CCDA into the EHR/RPMS.
  - Display reconciled list on single view.
Incorporation of CCDA Data: MU Required Features (cont.)
Incorporation of CCDA: IHS Additions

• Ability to incorporate data from other sources such as patient report or caregiver.
  • Site parameter that is populated with site-determined choices.
  • Then may use the Add buttons to add new entries or right click options to edit the RPMS list.
Incorporation of CCDA: IHS Additions (cont.)
Medication Reconciliation Measure

The EP who performs medication reconciliation for more than 50 percent of transitions of care in which the patient is transitioned into the care of the EP.

*** Reconciliation may be done using CIR, manually updating meds on Medication Management component, or clicking on Chart Review component.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document reconciled</td>
<td>No</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>Item reconciled</td>
<td>No</td>
<td>MU2 Rule</td>
</tr>
<tr>
<td>V Updated/Reviewed stores when reconcile meds, allergies, problems</td>
<td>Yes – but not only way to perform med reconciliation</td>
<td>MU2 Rule</td>
</tr>
<tr>
<td>SNOMED stores in V Updated/Reviewed when reconcile meds</td>
<td>No – and not only way to have SNOMED for med rec stored in background</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
FAMILY HISTORY
Family History: MU Required Features

SNOMED CT for Family History Conditions

<table>
<thead>
<tr>
<th>Relation</th>
<th>Name</th>
<th>Status</th>
<th>Age At Death</th>
<th>Cause of Death</th>
<th>Multiple Birth</th>
<th>Multiple Birth Type</th>
<th>Provider Narrative 1 Condition</th>
<th>Age at Diagnosis</th>
<th>Date Modified</th>
<th>ICD</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATURAL FATHER</td>
<td>John</td>
<td>LIVING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Family history of cancer of colon</td>
<td>52</td>
<td>07/24/2013</td>
<td>V16.0</td>
</tr>
<tr>
<td>NATURAL FATHER</td>
<td>John</td>
<td>LIVING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Family history of myocardial infarction</td>
<td>40</td>
<td>07/24/2013</td>
<td>V17.3</td>
</tr>
<tr>
<td>NATURAL MOTHER</td>
<td>Jane</td>
<td>LIVING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Family history of neoplasms of breast</td>
<td>42</td>
<td>07/24/2013</td>
<td>V16.3</td>
</tr>
</tbody>
</table>
Family History: IHS Additions

Ability to document actual age of onset for documented conditions.

Ability to note “approximate” for age of onset.
Family Health History Measure

More than 20 percent of all unique patients seen by the EP during the EHR reporting period have a structured data entry for one or more first-degree relatives.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter relation</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>Condition: SNOMED CT® encoded</td>
<td>No</td>
<td>MU2 rule</td>
</tr>
</tbody>
</table>
Preparing for Transition

Update your family history:

• Many sites have not fully converted the family history after the transition to the new component in EHRp6.
ALLERGIES
Allergies:
MU Required Features

• RxNorm, UNII for causative agents
• SNOMED CT® for Signs/Symptoms
• SNOMED CT® for drug/reaction combinations
Allergies: IHS Additions

• Encoded data is stored in the background.
• No significant changes for the EHR user.
## MU2 Data Captured by Allergies/ADR

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causative agent: RxNorm/UNII for ingredients</td>
<td>No</td>
<td>MU2 Rule, CCDA</td>
</tr>
<tr>
<td>Signs/symptoms: SNOMED CT® for signs/symptoms</td>
<td>No</td>
<td>CCDA</td>
</tr>
<tr>
<td>Causative agent/Signs/symptoms: SNOMED CT® for drug/reaction combinations</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
Preparing for Transition

• Review Policies and Procedures.
• Review Package settings.
  • Divisions
  • Auto-verify settings
  • “Top 10” sign/symptom list
• Review reactions on problem lists.
  • Reports available for this.
  • Ensure these are also in the Adverse Reaction package.
• Review Adverse Reaction “clean up” lists.
VITAL SIGNS
Vital Signs: MU Required Features

- Ability to enter height, weight, and blood pressure
- LOINC and SNOMED CT encoding

No change on front end for clinical users. Background mapping/storage of needed codes.
Vital Signs Measure

More than 80 percent of all unique patients seen by the EP have blood pressure (for patients age three and over only) and/or height and weight (for all ages) recorded as structured data.
## MU2 Data Captured by Vital Signs

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture of measurements as structured data</td>
<td>Yes</td>
<td>MU2 Rule</td>
</tr>
<tr>
<td>SNOMED CT®</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
SMOKING STATUS
Smoking Status:
MU Required Features

SNOMED CT® encoded
Two new statuses
Smoking Status: IHS Additions

• SNOMED CT® is stored in background when smoking status stored by Health Factor component, Superbill association, reminder dialog.
• No significant change for users.
• EHR Reminder Dialogs updated.
Smoking Status Measure

• More than **80 percent** of all unique patients 13 years old or older seen by the EP have smoking status recorded as structured data.
MU2 Data Captured by Smoking Status

<table>
<thead>
<tr>
<th>Feature</th>
<th>Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter smoking status</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>SNOMED CT® encoded</td>
<td>Yes – stored in background, no additional user input required</td>
<td>MU2 rule</td>
</tr>
</tbody>
</table>
INFANT FEEDING
Infant Feeding: MU Required Features

- SNOMED CT® encoded feeding choices
- Added secondary fluids if not exclusively breast or formula fed
## MU2 Data Captured by Infant Feeding

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding choice: SNOMED CT® encoded</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
“REFUSALS”
(REASONS SERVICE NOT DONE)
Reasons Not Done: MU Required Features

• SNOMED CT® encoded reasons not done.
• Exposed in Personal Health, Clinical Reminder Dialogs, Immunizations, Exams.
• Also exposed in components that will be enabled in EHRp14 – AMI and Stroke.
Reasons Not Done

- Absent response to treatment
- Complication of medical care
- Considered and not done
- Contraindicated
- Delay in receiving benefits
- Discontinued
- Finding related to health insurance issues
- Loss of benefits
- Medical care unavailable
- Medical contraindication
- Not entitled to benefits
- Not indicated
- Patient defaulted from follow-up
- Patient noncompliance - general
- Patient non-compliant - refused access to services
- Patient on waiting list
- Patient requests alternative treatment
- Patient transfer
- Refusal of treatment by patient
- Refusal not available
- Uninsured medical expenses

[Image of screenshot showing dropdown menu and form fields]
MU2 Data Captured by Refusals

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reason not done: SNOMED CT® encoded</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
ORDERS
Orders:
MU Required Features

- CPOE is required for lab, radiology, and medications.
Orders: IHS Additions

• Selection of Clinical Indication
  • SNOMED CT® Problem List (SNOMED encoded) and problems marked as POV
  • Option to search SNOMED

• Clinical Indication added for Consult order

• Reason for referral added for RCIS referral entry

• Otherwise no significant change for clinicians
CPOE Measure

More than 60 percent of medication, 30 percent of laboratory, and 30 percent of radiology orders created by the EP during the EHR reporting period are recorded using CPOE.
## MU2 Data Captured by Orders

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPOE</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
<tr>
<td>Consults and Referrals (SNOMED CT® referral type, consult received)</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
CONSULTS
Consults:
MU Required Features

• SNOMED CT® for type of referral – requires CAC update existing consults.
• Problem hook using new Clinical Indication field.
Consults:
MU Required Features (cont.)

• User will note new clinical indicator field; otherwise, user experience is the same.
## MU2 Data Captured by Consults

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance Measure?</th>
<th>Meets MU requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consults and Referrals (SNOMED CT® referral type, consult received)</td>
<td>No</td>
<td>CQM data capture</td>
</tr>
</tbody>
</table>
CQM DATA CAPTURE
CQM Data Capture: MU Required Features

- Require many of our data be represented in standard vocabularies:
  - SNOMED
  - LOINC
  - RxNorm
  - UNII
  - And more

- Majority of data is stored in the background directly (problem list) or through background mapping.

- Two new components to document AMI and stroke data were developed and delivered disabled due to edit issues. These will be corrected and delivered enabled in EHRp14.
## Required Data Input

<table>
<thead>
<tr>
<th>Data for Measures</th>
<th>EHR/RPMS Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNOMED CT® for problems</td>
<td>IPL</td>
</tr>
<tr>
<td>SNOMED CT® for diagnosis</td>
<td>IPL – select problems as POV</td>
</tr>
<tr>
<td>ICD-9 (ICD-10 after 1 October 2014) for diagnoses</td>
<td>IPL – select problems as POV (mappings from SNOMED, verified/edited by Coders)</td>
</tr>
<tr>
<td>SNOMED CT® for patient education (stored in background)</td>
<td>IPL – patient ed, Reminder Dialog - patient ed, Patient Ed</td>
</tr>
<tr>
<td>SNOMED CT® and LOINC for Smoking, ECOG health factors</td>
<td>Health Factors, Reminder Dialogs</td>
</tr>
<tr>
<td>SNOMED CT® and LOINC for measurements +/- value</td>
<td>Vital measurement, Reminder Dialog</td>
</tr>
<tr>
<td>SNOMED CT® and LOINC for exams +/- result</td>
<td>Vital measurement, Reminder Dialog</td>
</tr>
<tr>
<td>SNOMED CT® for immunizations</td>
<td>Immunizations, Reminder Dialog</td>
</tr>
</tbody>
</table>
## Required Data Input (cont.)

<table>
<thead>
<tr>
<th>Data for Measures</th>
<th>EHR/RPMS Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNOMED CT® for Infant feeding choice</td>
<td>Infant feeding</td>
</tr>
<tr>
<td>SNOMED CT® for referral type</td>
<td>Consult and Referral entry</td>
</tr>
<tr>
<td>RxNorm for Meds</td>
<td>Order meds</td>
</tr>
<tr>
<td>RxNorm, UNII for causative agent</td>
<td>Enter allergies/ADR</td>
</tr>
<tr>
<td>SNOMED CT® for medication + reaction</td>
<td>Enter allergies/ADR</td>
</tr>
<tr>
<td>SNOMED CT® and LOINC for labs</td>
<td>Lab order entry and processing</td>
</tr>
<tr>
<td>SNOMED CT® and LOINC</td>
<td>Radiology</td>
</tr>
<tr>
<td>CPT, ICD procedure</td>
<td>Services</td>
</tr>
<tr>
<td>SNOMED CT® for various encounter and admission related data</td>
<td>Visit creation, Admission</td>
</tr>
<tr>
<td>SNOMED CT® for medication reconciliation</td>
<td>Chart review, CIR incorporation of meds, Medication Management component</td>
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## Data Input

<table>
<thead>
<tr>
<th>Data for Measures</th>
<th>EHR/RPMS Input</th>
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<tr>
<td>Stroke data: date of arrival, baseline state, SNOMED CT® for signs/symptoms,</td>
<td>Stroke tool <em>(delivered corrected and enabled in EHRp14)</em></td>
</tr>
<tr>
<td>date/time fibrinolytic initiated, SNOMED CT® reason not initiated, Stroke score</td>
<td></td>
</tr>
<tr>
<td>AMI data: date of arrival, Date/time EKG done, SNOMED CT® &amp; ICD for EKG impression,</td>
<td>AMI tool <em>(delivered corrected and enabled in EHRp14)</em></td>
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<tr>
<td>date/time fibrinolytic initiated, SNOMED CT® reason not initiated</td>
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## Mapping/Storage of Data

<table>
<thead>
<tr>
<th>RPMS/EHR Data</th>
<th>Stores Additional Data</th>
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<tbody>
<tr>
<td>Measurements</td>
<td>LOINC and/or SNOMED</td>
</tr>
<tr>
<td>Health Factors</td>
<td>LOINC and/or SNOMED</td>
</tr>
<tr>
<td>Exams</td>
<td>SNOMED</td>
</tr>
<tr>
<td>Immunizations</td>
<td>SNOMED</td>
</tr>
<tr>
<td>Infant feeding</td>
<td>SNOMED</td>
</tr>
<tr>
<td>Education</td>
<td>SNOMED</td>
</tr>
<tr>
<td>Reasons not done (refusals)</td>
<td>SNOMED</td>
</tr>
<tr>
<td>Type of referral (RCIS, Consults)</td>
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### Mapping/Storage of Data (cont.)

<table>
<thead>
<tr>
<th>RPMS/EHR Data</th>
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<tr>
<td>Labs</td>
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</tr>
<tr>
<td>Radiology</td>
<td>LOINC and/or SNOMED</td>
</tr>
<tr>
<td>AMI data <em>(delivery EHRp14)</em></td>
<td>SNOMED</td>
</tr>
<tr>
<td>Stroke data <em>(delivery EHRp14)</em></td>
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</tr>
<tr>
<td>Medications</td>
<td>RxNorm</td>
</tr>
<tr>
<td>Allergy ingredients</td>
<td>RxNorm and/or UNII</td>
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<tr>
<td>Allergy reactions</td>
<td>SNOMED</td>
</tr>
<tr>
<td>Medication reconciliation</td>
<td>SNOMED</td>
</tr>
</tbody>
</table>
TIU/Notes:
MU Required Features

• Create electronic notes (no change).
• Text searchable notes (delivered in EHRp11).
TIU/Notes: IHS Additions

- New TIU objects to support new IPL features.
- Updated Infant Feeding object.
- EHR upgrade required incorporation of numerous VA TIU patches.
  - Includes standardization and mapping of National Note Titles.
  - Requires clean up and mapping over time.
  - Users will not notice change but CACs will need to map new note titles.
TIU Object “Active Problems w/o Dates”

Displays problems marked as “Chronic.”

Chronic Problems:
- Obesity | Can add clarification
- Chronic otitis externa | right
- Diabetes mellitus type 2 |
- Asthma |
- Lactocele | This is a test
- Abnormal findings diagnostic imaging heart+coronary circulat |
- Closed fracture of proximal ulna, comminuted | left, traumatic acute, swelling and hematoma at site
TIU Object “V Prob w/o dates”

Displays the problems selected as POV for current visit, visit instructions and education topics.

1) Open fracture of base of neck of femur | left, fall off cliff
   - QUALIFIERS:
   Severity Mild
   Clinical course Cyclic
   - INSTRUCTIONS:
   ORIF scheduled with Dr Bones tomorrow. ( by )

2) Diabetes mellitus type 2 |
   - QUALIFIERS:
   Severity Moderate
   Clinical course Acute-on-chronic
   - INSTRUCTIONS:
   Initial visit with Diabetes Case Management team today to receive
   glucose monitor. Check sugars in the morning and after meals for the
   next 2 weeks. Start metformin, take with meals to reduce the
   gastrointestinal side effects. Follow up with Diabetes Case
   Management team and return to see me in 2 weeks.
   ( by )
   - EDUCATION:
   Diabetes mellitus type 2 - DISEASE PROCESS

3) Hypothyroidism |
   - INSTRUCTIONS:
   TSH elevated and Free T4 supressed, increase Levothyroxine to
   .112mg/day. Return for labs in 4-6 weeks. ( by )
TIU Object “V Prob w/care plans”

Displays problems selected as POV, any active goal and care plan notes, visit instructions and education for current encounter.

V Prob w/care plans
1) Open fracture of base of neck of femur | left, fall off cliff
   - QUALIFIERS:
     Severity Mild
   Clinical course Cyclic
   - CARE PLANS:
     Open reduction internal fixation with Dr Bones on 7/25. Plan home PT and Deep Vein Thrombosis prophylaxis. This will be arranged during the inpatient stay. (by)
   - INSTRUCTIONS:
     ORIF scheduled with Dr Bones tomorrow. (by)

2) Diabetes mellitus type 2 |
   - QUALIFIERS:
     Severity Moderate
   Clinical course Acute-on-chronic
   - GOALS:
     A1C <7 (by)
   - CARE PLANS:
     A1C every 3 months until reach goal then every 6 months. Yearly: fasting lipids, kidney function, retinal eye exam, foot exam.
     Initial management with oral medications. Co-management with Diabetes Case Management team who provides ongoing education about diet, exercise, medications. (by)
   - INSTRUCTIONS:
     Initial visit with Diabetes Case Management team today to receive glucose monitor. Check sugars in the morning and after meals for the next 2 weeks. Start metformin, take with meals to reduce the gastrointestinal side effects. Follow up with Diabetes Case Management team and return to see me in 2 weeks. (by)
   - EDUCATION:
     Diabetes mellitus type 2 - DISEASE PROCESS

3) Hypothyroidism |
   - INSTRUCTIONS:
     TSH elevated and Free T4 suppressed. Increase Levothyroxine to .112mg/day. Return for labs in 1-6 weeks. (by)
Inpatient Objects

INPT PROBLEM LIST
• Displays problem marked as for inpatient for current hospitalization

INPT PROBLEMS W/CARE PLANS
• Displays problem marked as for inpatient for current hospitalization
• Includes Goals, Care Plans, Instructions for each

INPT PROBLEMS W/INSTRUCTIONS
• Displays problem marked as for inpatient for current hospitalization
• Includes Instructions for each
Electronic Notes Measure

Enter at least one electronic progress note created, edited, and signed by an EP for more than 30 percent of unique patients with at least one office visit during the EHR reporting period. The text of the electronic note must be text-searchable and may contain drawings and other content.
MU2 Data Captured by TIU Notes

<table>
<thead>
<tr>
<th>Feature</th>
<th>User Input Required for Performance Measure?</th>
<th>Meets MU requirement</th>
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</thead>
<tbody>
<tr>
<td>Document care in TIU notes</td>
<td>Yes</td>
<td>MU2 rule</td>
</tr>
</tbody>
</table>
TIU/Notes:
MU Required Features

None
VA Health Summary: IHS Additions

New Health Summary objects to support new IPL features.
MU2 Data Captured by VA Health
Summary Components

None
CLINICAL DECISION SUPPORT
CDS: MU Required Features

Clinical Decision Support (Clinical Reminders 2.0 upgrade)
• Reference information added to Clinical Maintenance
• Bibliographic information added to Reminder Descriptions
• Many support CQMs (table will be delivered with patch documentation)

HL7 info “I” button retrieves UpToDate clinical info
• Repurposed old “I” button to “Ed” button to continue to retrieve Patient Education

Drug-Drug/Drug-Allergy interaction
• Only change is reference information on title bar
Reminders 2.0 in a Nutshell

Upgrade to Reminders 2.0

• Conversion to version 2.0 and 8+ years of fixes/enhancements
• Lots of new functionality on the RPMS side
• Same look and feel in EHR but some enhanced dialog functionality
• Installing new reminders are a little different
• Reminders installed on your RPMS when you load patch will still work, but formatting may be a bit changed

You cannot install any v1.5 reminders once you have loaded 2.0.
Reminders 2.0: IHS Modifications

Clinical Reminders updated to “Reminders 2.0”

• Updated reminders
  • Updated in v2.0
  • Reference data for reminders (Bibliographic, Funding Source, Developer)
  • Some logic updates where needed

• Table with measures and guidelines reminders support
Reminders 2.0: IHS Modifications (cont.)
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>REMINDER/DIALOGS</td>
<td>CMS</td>
<td>NQF</td>
<td>CQM Name</td>
<td>Other Measures/Guidelines</td>
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<tr>
<td>IHS-ACTIVITY SCREEN 2013</td>
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<td>Million hearts, HP 2020 - PA</td>
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<tr>
<td>IHS-ALCOHOL SCREEN 2013</td>
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<td></td>
<td></td>
<td>GPRA, USPSTF, HP 2020 - SA</td>
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<td>IHS-ALLERGY 2013</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>IHS-ANTICOAG DURATION OF TX 2013</td>
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<td></td>
<td></td>
<td>US American College of Chest Physicians Antithrombotic Therapy and Prevention of Thrombosis Panel</td>
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<tr>
<td>IHS-ANTICOAG INR GOAL 2013</td>
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<td></td>
<td></td>
<td>US American College of Chest Physicians Antithrombotic Therapy and Prevention of Thrombosis Panel</td>
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<td>IHS-ANTICOAG THERAPY END DATE 2013</td>
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<td>US American College of Chest Physicians Antithrombotic Therapy and Prevention of Thrombosis Panel</td>
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<td></td>
<td>NHBLI Asthma Guidelines, HP 2020 - RD 7</td>
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<td>IHS-ASTHMA PRIM PROV 2013</td>
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<td></td>
<td>NHBLI Asthma Guidelines, HP 2020 - RD 7</td>
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<td>NHBLI Asthma Guidelines, HP 2020 - RD 7</td>
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<td>IHS-ASTHMA SEVERITY 2013</td>
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<td>NHBLI Asthma Guidelines, HP 2020 - RD 7</td>
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<td>NHBLI Asthma Guidelines, HP 2020 - RD 7</td>
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<td>IHS-BLOOD PRESSURE 2013</td>
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<td>126</td>
<td>0036</td>
<td>Use of Appropriate Medications for Asthma</td>
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<tr>
<td>IHS-BLOOD PRESSURE 2013</td>
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<td>165</td>
<td>0018</td>
<td>Controlling High Blood Pressure</td>
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<td>IHS-CHLAMYDIA SCREEN 2013</td>
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<td>151</td>
<td>0013</td>
<td>Chlamydia Screening for Women</td>
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<td>IHS-COLON CANCER 2013</td>
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<td>130</td>
<td>0034</td>
<td>Colorectal Cancer Screening</td>
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<td>IHS-CVD 2013</td>
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<td>639</td>
<td>AMI-10 Statin Prescribed at Discharge</td>
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<td>IHS-DENTAL VISIT 2013</td>
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<td>HP 2020 - Oral Health</td>
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<td>IHS-DEPO PROVERA 2013</td>
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<td>IHS-DEPRESSION SCREENING 2013</td>
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<td>2</td>
<td>0418</td>
<td>Preventive Care and Screening: Screening for Clinical Depression and</td>
</tr>
</tbody>
</table>
What Do I Need to Do Right After Install?

- Inactivate existing mammogram reminder and install new mammogram reminders (there are three).
- If you have any Immunization reminders deployed, you must install the new Immunization reminders.
- You do not have to move these into production immediately, but you should replace your old immunization reminders with the new ones fairly soon.
What Do I Need to Do Right After Install (cont.)

• Check existing reminders to make sure nothing is significantly changed in formatting. The remaining reminders should work as before.

• Review new reminders and determine if any need immediate updating.
Then What Do I Need to Do?

- Update your reminders with the v2.0 set – prioritize with reminders you need to attest for MU2.
- Review new functionality – reminders you have wanted to build may now be possible.
Clinical Decision Support Measure

• Implement **five** clinical decision support interventions **related to four or more clinical quality measures**, if applicable, at a relevant point in patient care for the entire EHR reporting period.

• The EP, eligible hospital, or CAH has **enabled the functionality for drug-drug and drug-allergy interaction** checks for the entire EHR reporting period.
How to Meet the Measure

- Enable drug-drug and drug-allergy interaction at the **system level**.
- Review the MU2_CDS Reminders and, if needed, install additional reminders to ensure five are deployed.
  - Set these at the **System Level**.
- For attestation, run the **User Parameter Value Report by Date** for the reporting time period.
Parameter Report

The new parameter reports enable a site to review the CDS tools that were enabled during the reporting period.

Parameter Audit System Menu

MGPA Parameter Audit System Management ...

RPPA Parameter Audit Reports ...
RUPA  User Parameter Value Report by Date

Select Parameter Audit Reports Option:

Select one of the following:

1  User Defined Date Range
2  Quarter: January 1 - March 31
3  Quarter: April 1 - June 30
4  Quarter: July 1 - September 30
5  Quarter: October 1 - December 31

Select Report Period: (1-5): 5

Enter the Calendar Year for which report is to be run.
Use a 4 digit year, e.g. 2014.

Select one of the following:

IP     Individual Provider
SEL    Selected Providers (User Defined)
TAX    Provider Taxonomy List

Enter Selection: ip  Individual Provider
Select a provider: NIESEN,MARY ANN MAN
enter for Seven, Henry – display then run for User,Clerk

Parameter Selection

You may select one or more Parameters.
Press the <Enter> key without entering a name to conclude the selection process.
Enter "^" to abort the selection process.

Select a Parameter: ORQQPX COVER SHEET
REMINDERS
Select a Parameter:
DEVICE: HOME// VT Right Margin: 80//
# Parameter Report

01/16/2014 Page: 1

ORQQPX COVER SHEET REMINDERS Parameter Report

For provider: PRESCRIBERONE,ONE TEST

01/01/2014 - 03/31/2014*

*Auditing for this parameter was ENABLED on 01/16/2014

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Provider</th>
<th>Date Range</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>IHS-IMMUNIZATION FORECAST 2011</td>
<td>SYS</td>
<td>01/16/2014 - 01/16/2014</td>
<td>Lock</td>
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<tr>
<td>IHS-TOBACCO SCREEN 2013</td>
<td>SYS</td>
<td>01/16/2014 - 01/16/2014</td>
<td>Lock</td>
</tr>
<tr>
<td>IHSMU2-ACE/ARB ALLERGY 2014</td>
<td>USR</td>
<td>01/16/2014 - 01/16/2014</td>
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</table>
Resources

Clinical Applications Documentation repository

http://www.ihs.gov/RPMS/index.cfm?module=Applications&option=View&AC_ID=0